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Northwest team bids on $178 million regional smart grid demonstration project

RICHLAND, Wash. – A diverse and experienced team of Northwest energy providers, utilities, vendors and research organizations has submitted a proposal to conduct a regional smart grid demonstration project. The project – unique in its scope, scale and functionality – is designed to ultimately lower energy costs, reduce emissions, increase power grid reliability and give consumers greater flexibility.

The proposal responds to a June call from the U.S. Department of Energy to create regional smart grid demonstration projects that can show how smart grid technology[1] can enhance the safety, reliability and efficiency of energy delivery on a regional and national level. DOE is providing stimulus funding via the American Recovery and Reinvestment Act for the regional demonstrations. Proposals were due Wednesday, Aug. 26, and funding will be announced by DOE later this year.

The Pacific Northwest Smart Grid Demonstration Project partnership will be led by Battelle and includes a dozen utilities in five Northwest states and the Bonneville Power Administration. The participating utilities run the gamut from investor-owned, municipal, and cooperative rural electrical utilities to public utility districts. A complete list of utilities and partners is provided below.

The project will involve more than 60,000 metered customers in Idaho, Montana, Oregon, Washington and Wyoming. Using smart grid technologies, the project will engage system assets exceeding 112 megawatts, the equivalent of power to serve 86,000 households.

Following installation of equipment and technology, participants will gather energy use information over a two-year period from 15 test sites that represent the region's diverse terrain, weather and demographics. Test sites range from Fox Island in Puget Sound to the Teton Mountains in western Wyoming, and include the University of Washington and Washington State University campuses.

"The proposed demonstration will study smart grid benefits at unprecedented geographic breadth across five states, spanning the electrical system from generation to end-use, and containing many key functions of the future smart grid," said Mike Davis, a Battelle vice president. "The intended impact of this project will span well beyond traditional utility service territory boundaries, helping to enable a future grid that meets pressing local, regional and national needs."

During the study, researchers will gain insight into energy consumers' behavior while testing new technologies designed to bring the electric transmission system into the information age. A new combination of devices, software and advanced analytical tools will give homeowners more information about their energy use and cost, and researchers want to know if this will modify their behavior.

(more)

[1] Smart grid technology includes everything from interactive appliances in homes to substation automation and sensors on transmission lines. It is a system that uses various technologies to enhance power delivery and use through intelligent two-way communication. Generators of electricity, suppliers and users are all part of the equation. With increased communication and information, smart grid implementations can monitor activities in real time, exchange data about supply and demand and adjust power use to changing load requirements.

"The project will measure and validate smart grid costs and benefits for customers, utilities and regulators, thereby informing business cases for future smart grid investments," said Davis. "It also will help spur a vibrant new smart grid industry and a more cost-effective, reliable electricity supply, both which are foundations for economic growth and international competitiveness.

"And the information customers receive from the smart grid will empower them to become active instead of passive recipients of electricity," he added.

In addition to leading the project, Battelle will analyze field data collected during the project.

In 2006, the region participated in the DOE-funded Pacific Northwest GridWise™ Demonstration Project on the Olympic Peninsula. That project was designed to test and speed adoption of new smart grid technologies that can make the power grid more resilient and efficient. The study showed that advanced technologies enabled consumers to be active participants in improving power grid efficiency and reliability, while saving about 10 percent on their electricity bills in the process.

"BPA is excited to be part of the effort to bring a smart grid project to the Pacific Northwest," said the agency's Energy Efficiency Vice President Mike Weedall. "This technology can help meet increasing power demands, reduce greenhouse gas emissions, promote energy independence and help improve national security. If the proposal is funded, it would also create green, sustainable jobs in technology, energy efficiency and other industries in the region."

Weedall noted the demonstration project builds upon the leadership the Pacific Northwest has delivered to the nation's emerging smart grid agenda including pioneering smart grid technology, utility applications, customer engagement strategies and policy. For example, the 2006 GridWise™ Demonstration Project showed how smart grid technologies and consumers can play an active role in managing the grid.

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Pacific Northwest Smart Grid Demonstration Project
Proposed Test Site Locations and Corresponding Utilities

Idaho
Idaho Falls (Idaho Falls Power)

Montana
Northwest Montana (Flathead Electric Cooperative, Inc.)
Southwest Montana (NorthWestern Energy)

Oregon
Milton-Freewater (City of Milton-Freewater)
Portland (Bonneville Power Administration)
Salem (Portland General Electric)

Washington
Airway Heights (Inland Power & Light Co.)
Ellensburg (City of Ellensburg)
Fox Island (Peninsula Light Co.)
Kennewick (Benton PUD)
Pullman (Avista Utilities)
University of Washington (Seattle City Light)

Wyoming
Western Wyoming (Lower Valley Energy)

Project-level Industrial Partners

3TIER, Inc.
AREVA USA
Drummond Group, Inc.
IBM
Netezza Corp.
QualityLogic, Inc.

Additionally, there are several industrial companies that will be partnering with one or more of the project's utilities.